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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,481	02/14/2004	Scott T. Weisgerber	GP-304122	5535

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EXAMINER

GRANT, ROBERT J

ART UNIT PAPER NUMBER

2838

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/779,481

Applicant(s)

WEISGERBER ET AL.

Examiner

Robert Grant

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2-14-04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Koo (US 6,841,972).

As to Claim 1, Koo discloses a method for diagnosing a critical state of charge condition of an energy storage system, comprising: obtaining power flow and state of charge for the energy storage system (Column 5, lines 17-22); determining if the combination of power flow and state of charge meet predetermined criteria (Column 5, lines 46-53); if the predetermined criteria are met, indicating a critical state of charge

condition if the state of charge is outside of a predetermined region of state of charge for a predetermined duration (Column 5, lines 54-60).

As to Claim 2, which is dependent upon claim 1, Koo further discloses wherein the predetermined criteria are characterized by increasingly less tolerance for charge power flow at increasingly higher state of charge (Column 7, lines 13-17).

As to Claim 3, which is dependent upon claim 1, Koo further discloses wherein the predetermined criteria are characterized by increasingly less tolerance for discharge power flow at increasingly lower state of charge (Column 6, lines 14-19).

As to Claim 7, Koo discloses a method for diagnosing a critical state of charge condition of an energy storage system, comprising: within a predefined extreme range of state of charge, providing a plurality of state of charge thresholds and a corresponding plurality of unique increment values, said increment values being larger the further away the corresponding state of charge threshold is from a predefined non-extreme range of state of charge (Figure 4, as can be seen, 52.5% is the mid point, and there is a 12.5% range to the next level, and then a 15% range to the following levels); periodically obtaining state of charge (Column 5, lines 9-12); for so long as state of charge is outside of the predefined range of non-extreme state of charge comparing the state of charge to the state of charge thresholds and selecting one of said increments in accord with the comparison (Column 5, lines 32-33); incrementing a counter with the selected

increment (Column 5, lines 54-60); comparing the counter to a counter limit (Figure 2, S209); and providing an indication of a critical state of charge condition if said counter exceeds said counter limit (Figure 2, elements S210 and S217).

As to Claim 8, which is dependent upon claim 7, Koo further discloses wherein the predefined extreme range of state of charge corresponds to high state of charge (Figure 4, Very high soc).

As to Claim 9, which is dependent upon claim 7, Koo further discloses wherein the predefined extreme range of state of charge corresponds to low state of charge Figure 4, Very low soc).

Response to Arguments

3. Applicant's arguments filed 10-11-2005 have been fully considered but they are not persuasive.

As for the applicants argument that Koo's teaching of discharge current is not the same as the applicants power flow, Koo's discharging current measurement is a measurement of power flow, and any measurement of a value from one point to another is a measurement of flow, and therefore Koo does in fact "obtain power flow". It is noted that power flow is directed related to current flow, and therefore having a current flow implies having a power flow.

As for the applicants argument that Koo's teaching does not meet the limitations of "determining if the combination of power flow and state of charge meet predetermined criteria", Koo does in fact disclose the "power flow" (discharge voltage), and then from the values that it is monitoring at (S209) the SOC is know, and if the theoretical discharge voltage remains larger then the minimum discharge voltage for a predetermined period of time (i.e., predetermined criteria), then a warning is set (Column 5, lines 54-60).

As for the applicants arguments that Koo does not teach "if the predetermined criteria are met, indicating a critical state of charge condition if the state of charge is outside of a predetermined region of state of charge for a predetermined duration." As similarly explained above, after a predetermined time as elapsed with comparison of the voltage values meeting the criteria set forth in S209 or S216, which are measurement of the SOC of the battery, the region at which the SOC of the battery is currently associated with is changed, and moved into a critical SOC.

As for the applications arguments with regards to claim 7, Koo discloses in figure 4 ranges of state of charge which have a unique increment value, wherein the increment value is larger the further away from the corresponding state of charge threshold is from a predefined non-extreme range of state of charge. The non-extreme state of charge is at 52.5% (mid point of the normal state of charge), then 12.5% off of that is the next level (high or low SOC), followed by 15% off of the previous level (very high or very

Art Unit: 2838

low). Koo's counter and timers are responsible for moving the SOC to the various level, as seen in Column 5, lines 32-36 and Column 4, lines 47-56. Therefore the counters cause the % value to be incremented into the next range. An argument, such that Koo discloses additional elements to what is claimed is not material to what Koo discloses that is claimed.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Grant whose telephone number is 571-272-2727. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2838

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RG

KARL EASTHOM
SUPERVISORY PATENT EXAMINER



~~KARL D. EASTHOM~~
~~PRIVATE EXAMINER~~